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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/579,723	05/17/2006	Yuuichi Inaba	P29906	3553
52123 7590 03/19/2008 GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191				
EXAMINER				
SOHN, SEUNG C				
ART UNIT		PAPER NUMBER		
2878				
NOTIFICATION DATE		DELIVERY MODE		
03/19/2008		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

gbpatent@gbpatent.com
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Office Action Summary

Application No.

10/579,723

Applicant(s)

INABA, YUUCHI

Examiner

SEUNG C. SOHN

Art Unit

2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-9 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-9 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 May 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☒ Information Disclosure Statement(s) (PTO/ISD)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____
- Paper No(s)/Mail Date 20060817

DETAILED ACTION

Drawings

1. Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. ***Claims 1 and 3-9 are rejected under 35 U.S.C. 112, second paragraph***, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claims 1 and 3-9 recite the limitation "said lens layer" in various places. However, it is not clear which lens layer it is referring to. Is it the convex lens layer or the concavo-convex lens layer? Clarification is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. ***Claims 1 and 3-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Akiyama (Patent Pub. No. US 2004/0165156 A1).***

Regarding claim 1, Akiyama shows in Fig. 3 a photoelectric conversion part which converts incident light into electric charges; a convex lens layer which is formed above said photoelectric conversion part, and through which the incident light is transmitted; and a concavo-convex lens layer which is formed on and around said lens layer, and which collects the incident light and outputs the incident light to said lens layer,, wherein said lens layer includes a light-transmission film having a shape of concentric circles in which a ratio of a total line-width to a periodic width varies depending on a plurality of zones, each of which is obtained by dividing said light-transmission film by a predetermined periodic width in an in-plane direction.

Regarding claim 3, Akiyama shows in Fig. 3 that a refractive index of said lens layer is greater than a refractive index of said lens layer.

Regarding claim 4, Akiyama shows in Fig. 3 a wavelength separation part which is formed above said photoelectric conversion part and through which light of a

Art Unit: 2878

predetermined wavelength range is transmitted, wherein a thickness and a width of said lens layer are set to achieve a predetermined focal length for the light of the predetermined wavelength range.

Regarding claim 5, Akiyama shows in Fig. 3 that said lens layer is made of one of boron phosphorous silicon glass, tetra ethoxy silane, benzocyclobutene, and polyimide resin.

Regarding claim 6, Akiyama shows in Fig. 3 that said lens layers have a part where said lens layers are getting thinner from a center of said pixel towards a periphery of said pixel.

Regarding claim 7, Akiyama shows in Fig. 7 said lens layer has a concentric shape whose center is not immediately above a center of said photoelectric conversion part.

Regarding claim 8, Akiyama shows in Fig. 3 a photoelectric conversion part which converts incident light into electric charges; a convex lens layer which is formed above the photoelectric conversion part, and through which the incident light is transmitted; and a concavo-convex lens layer which is formed on and around the lens layer, and which collects the incident light and outputs the incident light to the lens layer, said method comprising: forming a material layer on a base in order to form the lens layer; forming a resist film on the material layer; forming a pattern on the material layer in which a distance between the resist films is increased from a center of the pixel towards a periphery of the pixel; etching the material layer up to a point where the material layer outside of said pattern still remains.

Regarding claim 9, Akiyama shows in Fig. 3 a photoelectric conversion part which converts incident light into electric charges; a convex lens layer which is formed above said photoelectric conversion part, and through which the incident light is transmitted; and a concavo-convex lens layer which is formed on and around said lens layer, and which collects the incident light and outputs the incident light to said lens layer, wherein said lens layer includes a light-transmission film having a shape of concentric circles in which a ratio of a total line-width to a periodic width varies depending on a plurality of zones, each of which is obtained by dividing said light-transmission film by a predetermined periodic width in an in-plane direction.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SEUNG C. SOHN whose telephone number is (571)272-4123. The examiner can normally be reached on Mon-Thur, 7:30 AM -6 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, GEORGIA Y. EPPS can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2878

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/SEUNG C SOHN/

Patent Examiner, Art Unit 2878